## Comprehensive Strategy

TAB - HBC AHG Interim Report
Latest version of report/timeline - May 22?

Native fish experts, biologists, and resource managers developed a laundry list, realized not a strategy, addressed recovery goals, report is that strategy, timeline is its implementation, project proposals still need to be addressed. Will be emailed to SA's – comments now solicited from the AMWG.

Strategy is comprehensive; some parts of this strategy may be outside the purview of the AMP, or are the responsibility of another entity.

p. 7 - section 4.0 expand range, increase recruitment, reduce LCR threats

Strategy has spatial and temporal characteristics. We view construction of the TCD by 2007 as a threshold event, necessary for establishment of a significant mainstem HBC aggregation, which would be part of the larger HBC meta-population.

## **Spatial**

as a result of longitudinal main channel warming downstream, the threat of warm
water non-native fish is greater downstream. Brown trout predation Bright Angel to
LCR. Spatially, we think it makes the most sense to establish mainstem HBC fish
upstream of the LCR, to avoid any negative impacts from LCR pollution or hazardous
spills and to avoid warm water non-native fish interactions.

## Temporal

- Prior to operating a TCD:
  - o Implement non-native fish control in the mainstem (LCR and Bright Angel areas) and the tributaries most suitable for HBC translocation.
  - Translocate YOY HBC into suitable areas to expand their current range (Chute Falls, Bright Angel, Shinumo, Tapeats, etc.)
  - If needed, establish captive breeding population as insurance against unintended consequences (current Willow Beach fish may form part of this population).
  - Conduct flow experiments to better understand the relationship between dam releases and YOY habitat (LCR ponding and near shore habitat during YOY emergence from LCR). Develop flow experimentation program.
  - Establish baseline for fish parasites and diseases
- After operating a TCD:
  - Continue or increase non-native control activities
  - Monitor for expansion of non-natives
  - Monitor parasite/disease levels
  - Implement flow testing program